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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,383	04/22/2004	Hiroshi Satoh	61355-056	7080

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Washington, DC 20005-3096

EXAMINER
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AZARIAN, SEYED H

ART UNIT	PAPER NUMBER
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2624

MAIL DATE	DELIVERY MODE
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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/829,383	<b>Applicant(s)</b> SATO, HIROSHI	
	<b>Examiner</b> Seyed Azarian	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9, 10 and 14-19 is/are rejected.
- 7) ☒ Claim(s) 7, 8 and 11-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/22/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-6, 9, 14-15 and 17-18, are rejected under 35 U.S.C. 102(e) as being anticipated by Sugiyama et al (U.S. patent 6,858,827).

Regarding claim 1, Sugiyama discloses an image-capturing apparatus comprising: an image-capturing unit having a plurality of pixels disposed two-dimensionally (column 6, lines 6-10, the pixels array unit is formed by arranging a plurality of pixels in two-dimensional matrix);

an adding unit that generates an image by adding outputs of pixels present around a given pixel at the image-capturing unit to an output of the given pixel (column 11, lines 55-64, four-pixel addition, lines are scanned one by one in the digital image output);

an image-processing unit that processes the image resulting from addition executed by the adding unit (column 11, lines 38-63, in addition with the above described, image conformation can be outputted);

and an addition pattern generating unit that generates an addition pattern with which pixel outputs are added together by the adding unit in correspondence to a type

Art Unit: 2624

of image processing to be executed by the image processing unit (column 19, lines 1-18, in addition a control method according to the present invention transmits an image signal obtained by an imaging pixel in a first signal transmitting path and a second signal transmitting path of a signal line, and performs different signal processing operation. Also it is possible to enhance the function of obtaining a normal actual image and the computational function for executing various application).

Regarding claim 2, Sugiyama discloses an image-capturing apparatus according to claim 1, wherein: when the image processing unit is to execute image processing for detecting an edge in the image, the addition pattern generating unit generates the addition pattern in correspondence to a type of edge to be detected by the image processing unit (see claim 1, also column 23, lines 13-16, a solid-state image pickup apparatus as claimed in claim 1, wherein first signal processing unit and second signal processing unit are used for image signal output and image edge detection).

Regarding claim 3, Sugiyama discloses an image-capturing apparatus according to claim 1, wherein: when the image processing unit is to execute image processing for detecting a predetermined target object, the addition pattern generating unit generates the addition pattern in correspondence to the target object to be detected by the image processing unit (column 11, lines 39-54, function of extracting only a moving object (target) within an imaging screen by performing basically the same operation as the range measurement).

Regarding claim 4, Sugiyama discloses an image-capturing apparatus according to claim 1, wherein: when the image processing unit changes the type of image

Art Unit: 2624

processing for each captured image frame, the addition pattern generating unit generates the addition pattern in correspondence to the type of image processing for the each captured image frame (column 15, lines 35-46, calculating a difference between frames and change of intensity).

Regarding claim 5, Sugiyama discloses an image-capturing apparatus according to claim 2, wherein: when the image processing unit changes the type of edge to be detected for each captured image frame, the addition pattern generating unit generates the addition pattern in correspondence to the type of edge to be detected which is altered for the each captured image frame (see claim 2, also column 12, lines 20-39, refer to change of edge detection).

Regarding claim 6, Sugiyama discloses an image-capturing apparatus according to claim 1, wherein: a number of pixels the outputs of which are added together with the addition pattern generated by the addition pattern generating unit in correspondence to the type of image processing is adjusted in conformance to one of a frame rate and a length of exposure time set for the image-capturing unit (column 11, lines 23-31, the range of measurement can be performed independently of each other and continuously in different time period).

Regarding claim 9, Sugiyama discloses an image-capturing apparatus comprising: an image-capturing unit having a plurality of pixels disposed two-dimensionally; an adding unit that generates an image by adding outputs of pixels present around a given pixel at the image-capturing unit to an output of the given pixel; an image processing unit that processes the image resulting from addition executed by

Art Unit: 2624

the adding unit; and an addition pattern generating unit that generates an addition pattern with which pixel outputs are added together by the adding unit in correspondence to vehicular behavior detected by a vehicular behavior detection unit (see claim 1, also column 18, lines 7-25, refer to motor vehicle).

With regard to claims 14, 15 and 17-18, the arguments analogous to those presented above for claims 1, 2, 6, 9 are respectively applicable to claims 14, 15 and 17-18.

### **Claim Rejections - 35 USC § 103**

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 16 and 19, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama et al (U.S. patent 6,858,827) in view of Tomita (U.S. patent 6,778,766).

However regarding claim 10, Sugiyama does not explicitly state its corresponding " vibration detection unit that detects a vibration of the image-capturing apparatus". On the other hand Tomita in the same field optical device teaches (column 3, line 53 through column 4, line 9, vibration detecting unit, an image vibration correcting optical system that corrects an image vibration caused by the vibration of the vibration

Art Unit: 2624

correcting optical device, a drive unit that drive the image vibration correcting optical system based upon a drive signal).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Sugiyama invention according to the teaching of Tomita because combination of Sugiyama and Tomita provides device that is capable of detecting vibrations accurately and efficiently and correcting a vibration as appropriate.

With regard to claims 16 and 19, the arguments analogous to those presented above for claims 1 and 10 are respectively applicable to claims 16 and 19.

#### ***Allowable Subject Matter***

5. Claims 7-8 and 11-13 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### **Other prior art cited**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(U.S. patent 7,164,117) Breed et al is cited for vehicular restraint system control system and method using multiple optical imagers.

(U.S. patent 7,147,246) to Breed et al is cited for method for airbag inflation control.

(U.S. patent 6,968,073) to O,Boyle et al is cited for occupant detection system.

Art Unit: 2624

(U.S. patent 7,136,710) to Hoffberg et al is cited for ergonomic man-machine interface incorporating adaptive pattern recognition based control system.

### ***Contact Information***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (571) 272-7443. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR.

Status information about the PAIR system, see [http:// pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seyed Azarian  
Patent Examiner  
Group Art Unit 2624  
June 23, 2007

